

Application #09/646,640
Amendment dated December 28, 2005

Amendments to the claims:

1 1. (previously cancelled)

2 2. (previously cancelled)

3. (previously cancelled)

4. (previously cancelled)

5. (previously cancelled)

6. (previously cancelled)

7. (previously cancelled)

8. (previously cancelled)

9. (previously cancelled)

1 10. (currently amended) Data protection method for operating a
2 microprocessor of a chip card to protect data elements contained in
3 a memory of a chip card from discovery by analysis of electrical
4 power consumption by the microprocessor, said method using a
5 cryptographic algorithm for executing operations for processing
6 said data elements so as to generate encrypted information, said
7 method comprising:
8 operating the microprocessor to randomly modifying the
9 order of execution of operations involving
10 manipulations of data elements contained in the
11 memory from one cycle to another, a cycle being a
12 complete execution cycle of the algorithm or an
13 intermediate cycle of a group of operations, said
14 operations being operations whose order of execution
15 relative to the others does not affect the result,
16 thereby protecting said data elements contained in
17 said memory and processed by a microprocessor in a

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18 chip card from discovery by analysis of the
19 microprocessor's electric power consumption.

1 11. (currently amended) The protection method according to claim 10,
2 wherein the modified order of execution of operations include
3 permutation of bits of a message block before which is performed
4 after the permutation of bits of a key, and vice versa.

1 12. (currently amended) The protection method according to claim 10,
2 wherein the modified order of execution of operations include a
3 random determination of the processing of quartets~~modifying the~~
4 ~~order of processing quartets making up a data element.~~

1 13. (cancelled)

1 14. (Currently Amended) Data protection method for operating a
2 microprocessor of a chip card to protect data elements contained in
3 a memory of the chip card from discovery by analysis of the electric
4 power consumption of the microprocessor, said method using a
5 symmetric cryptographic algorithm of the DES-type with a
6 permutation step for executing operations for processing data
7 elements so as to generate encrypted information, said method
8 comprising:
9 operating the microprocessor to using a symmetric
10 cryptographic algorithm of the DES type with a
11 permutation step, said permutation step including a
12 random randomly determination of determine a
13 processing order of the bits for the execution of the
14 permutation step, thereby protecting said data
15 elements processed by a microprocessor in a chip card
16 from discovery by analysis of the microprocessor's
17 electric power consumption.

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- 1 15. (previously presented) The data protection method of Claim 14
2 wherein the cryptographic algorithm for executing operations for
3 processing data elements includes a group of operations executed
4 repeatedly.
- 1 16. (new) The data protection method of Claim 10 wherein said data
2 elements are keys.
- 1 17. (new) The data protection method of Claim 10 wherein said data
2 elements are keys.